This listing of claims will replace all prior versions, and listings, of claims in the application:

1   Claim 1 (currently amended): A method for provisioning services to packets sourced
2   from a number of client devices, the method comprising:
3   a) accepting a packet sourced from one of the number of client devices, wherein
4   the packet has had at least a part of a layer 2 header replaced with a unique bit
5   string, wherein the layer 2 header is an Ethernet header, wherein when the unique
6   bit string replaces the at least a part of the layer 2 header a modified header is
7   generated, wherein a bit-size of the modified header is the same as that of the
8   Ethernet header, and wherein the unique bit string ~~that~~ is independent of any
9   contents of the packet;
10   b) determining whether or not the packet is entitled to access a particular service
11   using at least a portion of the unique bit string; and
12   c) if it is determined that the packet is entitled to access the particular service,
13   then routing the packet.

1   Claim 2 (original): The method of claim 1 wherein at least a portion of the unique bit
2   string represents one of a number of logical interfaces.

1   Claim 3 (previously presented): The method of claim 1 wherein at least a portion of the
2   unique bit string corresponds to a virtual private network-organizational universal
3   identifier.

1   Claim 4 (previously presented): The method of claim 1 wherein at least a portion of the
2   unique bit string corresponds to a virtual private network-INDEX.

1   Claim 5 (currently amended): A method for providing various quality of service levels to
2   packets sourced from a number of client devices, the method comprising:

2

3   a) accepting a packet sourced from one of the number of client devices, wherein

4   the packet has had at least a part of a layer 2 header replaced with a unique bit

5   string that is independent of any contents of the packet;

6   b) determining a service level to which the packet is entitled using at least a

7   portion of the unique bit string, wherein the layer 2 header is an Ethernet header,

8   wherein when the unique bit string replaces the at least a part of the layer 2 header

9   a modified header is generated, and wherein a bit-size of the modified header is

10   the same as that of the Ethernet header; and

11   c) forwarding the packet to a particular one of a plurality of queues associated

12   with the service level determined.

1   Claim 6 (original): The method of claim 5 wherein at least a portion of the unique bit

2   string represents one of a number of logical interfaces.

1   Claim 7 (previously presented): The method of claim 5 wherein at least a portion of the

2   unique bit string corresponds to a virtual private network-organizational universal

3   identifier.

1   Claim 8 (previously presented): The method of claim 5 wherein at least a portion of the

2   unique bit string corresponds to a virtual private network-INDEX.

1   Claim 9 (currently amended): A method for monitoring packets sourced from a group of

2   client devices defining a subset of client devices, each of the packets having at least a part

3   of a layer 2 header replaced with a unique bit string, the method comprising:

4   a) determining whether or not the packet belongs to the group of client devices

5   using at least a portion of at least one of the unique bit string, wherein the layer 2

6   header is an Ethernet header, wherein when the unique bit string replaces the at

7   least a part of the layer 2 header a modified header is generated, and wherein a

8   bit-size of the modified header is the same as that of the Ethernet header; and

9   b) if it is determined that the packet does belong to the group of client devices,

10   then

3

11   i) copying the packet to generate a duplicate packet, and

12   ii) forwarding the duplicate packet to a monitoring facility, wherein the

13   monitoring facility monitors at least one of (A) service provided to a group

14   of customers and (B) security.

1 Claim 10 (original): The method of claim 9 wherein at least a portion of the unique bit

2 string represents one of a number of logical interfaces.

1 Claim 11 (previously presented): The method of claim 9 wherein at least a portion of the

2 unique bit string corresponds to a virtual private network-organizational universal

3 identifier.

1 Claim 12 (previously presented): The method of claim 9 wherein at least a portion of the

2 unique bit string corresponds to a virtual private network-INDEX.

1 Claim 13 (currently amended): An apparatus for provisioning services to packets sourced

2 from a number of client devices, each of the packets having at least a part of a layer 2

3 header replaced with a unique bit string, the apparatus comprising:

4   a) an access control list; and

5   b) an access controller, the access controller including

6   i) means for determining whether or not the packet is entitled to access a

7   particular service using

8   A) contents of the access control list, and

9   B) at least a portion of the unique bit string, wherein the layer 2

10   header is an Ethernet header, wherein when the unique bit string

11   replaces the at least a part of the layer 2 header a modified header

12   is generated, and wherein a bit-size of the modified header is the

13   same as that of the Ethernet header, and

14   ii) means for routing the packet if it is determined that the packet is

15   entitled to access the particular service.

4

1   Claim 14 (currently amended): An apparatus for providing various service levels to

2   packets sourced from a number of client devices, each of the packets having at least a

3   part of a layer 2 header replaced with a unique bit string that is independent of contents of

4   the packets, the apparatus comprising:

5   a) a plurality of queues, each of the plurality of queues associated with a

6   particular service level;

7   b) a service level list; and

8   c) a service level controller, the service level controller including

9   i) means for determining a service level to which the packet is entitled

10   using

11   A) contents of the service level list, and

12   B) at least a portion of the unique bit string, wherein the

13   layer 2 header is an Ethernet header, wherein when the

14   unique bit string replaces the at least a part of the layer 2

15   header a modified header is generated, and wherein a

16   bit-size of the modified header is the same as that of the

17   Ethernet header, and

18   ii) means for forwarding the packet to the one of the plurality of queues

19   associated with the quality of service level determined.

1   Claim 15 (currently amended): An apparatus for monitoring packets sourced from a

2   group of client devices defining a subset of client devices, each of the packets having at

3   least a part of a layer 2 header replaced with a unique bit string, the apparatus

4   comprising:

5   a) a monitoring port for accepting packets of the group of client devices to be

6   monitored;

7   b) means determining whether or not an accepted packet belongs to the group of

8   client devices using at least a portion of the unique bit string, wherein the layer 2

9   header is an Ethernet header, wherein when the unique bit string replaces the at

10   least a part of the layer 2 header a modified header is generated, and wherein a

11   bit-size of the modified header is the same as that of the Ethernet header; and

12   c) means for

5

13   i) copying the accepted packet to generate a duplicate packet, and

14   ii) forwarding the duplicate packet to the monitoring port so that at least

15   one of (A) service to a group of customers and (B) security, may be

16   monitored, if it is determined that the packet was sourced by a client

17   device belonging to the group of client devices.

1   Claim 16 (canceled)

1   Claim 17 (previously presented): The method of claim 1 wherein at least a portion of the

2   unique bit string represents a logical port identifier including a geographic location

3   identifier and a physical unit identifier.

1   Claim 18 (canceled)

1   Claim 19 (previously presented): The method of claim 5 wherein at least a portion of the

2   unique bit string represents a logical port identifier including a geographic location

3   identifier and a physical unit identifier.

1   Claim 20 (previously presented): The method of claim 9 wherein the unique bit string is

2   independent of a layer 2 destination address.

1   Claim 21 (canceled)

1   Claim 22 (previously presented): The method of claim 9 wherein at least a portion of the

2   unique bit string represents a logical port identifier including a geographic location

3   identifier and a physical unit identifier.

1   Claim 23 (previously presented): The method of claim 13 wherein the unique bit string is

2   independent of a layer 2 destination address.

1   Claim 24 (canceled)

6

1   Claim 25 (previously presented): The method of claim 13 wherein at least a portion of
2   the unique bit string represents a logical port identifier including a geographic location
3   identifier and a physical unit identifier.

1   Claim 26 (canceled)

1   Claim 27 (previously presented): The method of claim 14 wherein at least a portion of
2   the unique bit string represents a logical port identifier including a geographic location
3   identifier and a physical unit identifier.

1   Claim 28 (previously presented): The method of claim 15 wherein the unique bit string is
2   independent of a layer 2 destination address.

1   Claim 29 (canceled)

1   Claim 30 (previously presented): The method of claim 15 wherein at least a portion of
2   the unique bit string represents a logical port identifier including a geographic location
3   identifier and a physical unit identifier.

1   Claim 31 (previously presented): The method of claim 1 wherein the step of determining
2   whether or not the packet is entitled to access a particular service using at least a portion
3   of the unique bit string is a separate determination from determining whether or not the
4   packet can be forwarded.

1   Claim 32 (previously presented): The method of claim 1 wherein the packet is routed
2   only if it is determined that the packet is entitled to access the particular service.

1   Claim 33 (previously presented): The method of claim 5 wherein the service level is a
2   quality of service level.

7

1   Claim 34 (previously presented): The method of claim 5 wherein the service level is a

2   quality of service level represented by a plurality of bits.

1   Claim 35 (currently amended): A method for provisioning services to packets sourced

2   from a number of client devices, the method comprising:

3   a) accepting a packet sourced from one of the number of client devices;

4   b) replacing at least a part of a layer 2 header of the packet with a unique bit

5   string that is independent of any contents of the packet;

6   c) determining whether or not the packet is entitled to access a particular service

7   using at least a portion of the unique bit string; and

8   d) if it is determined that the packet is entitled to access the particular service,

9   then routing the packet,

10   wherein the layer 2 header is an Ethernet header, wherein when the unique

11   bit string replaces the at least a part of the layer 2 header a modified header is generated,

12   and wherein a bit-size of the modified header is the same as that of the Ethernet header.

1   Claim 36 (currently amended): A method for providing various quality of service levels

2   to packets sourced from a number of client devices, the method comprising:

3   a) accepting a packet sourced from one of the number of client devices;

4   b) replacing at least a part of a layer 2 header of the packet with a unique bit

5   string that is independent of any contents of the packet;

6   c) determining a service level to which the packet is entitled using at least a

7   portion of the unique bit string; and

8   d) forwarding the packet to a queue associated with the service level determined,

9   wherein the layer 2 header is an Ethernet header, wherein when the unique

10   bit string replaces the at least a part of the layer 2 header a modified header is generated,

11   and wherein a bit-size of the modified header is the same as that of the Ethernet header.

8